

# Salon Half-Head Study



Combability Hydration  
functional active  
shine Skin & Hair Care  
Anti-Frizz Smoothing  
sustainable

## ABSTRACT

The condition of the cuticle (the outer most layer of the hair) significantly affects both the manageability and sleekness of our hair. Overtime, hair can become damaged, which can result in the cuticle lifting because of both environmental and styling influences and processes. The result: lifeless, dull hair that is difficult to manage. Improving the sleekness of hair has been shown to instantly create a healthier more youthful appearance. Increasing combability not only eases manageability, but also helps to minimize physical damage that perpetuates the loss of body and difficulty in styling.

**AC PolyJackharides** capitalizes on the isolated polysaccharides extracted from jackfruit upcycled waste. **AC PolyJackharides** allows formulators to achieve multiple potent benefits for skin and hair by utilizing a plant-derived material to revitalize and condition damaged skin, while providing softening and emollient benefits for a luxuriant appearance. This unique ingredient also enhances smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration when used in hair care products. The purpose of this study was to confirm whether **AC PolyJackharides** is capable of providing benefits when included in a shampoo and conditioner on all hair types.

A half head study was conducted to determine the comparison of a control shampoo vs. 2.0% **AC PolyJackharides** in the control shampoo. Additionally, a comparison between the control conditioner and 2.0% **AC PolyJackharides** in the control conditioner were reported. Each volunteer's hair was photographed prior to the treatment and again after the shampoo and conditioner had been applied and the hair was styled. The images of the half head study were used in conjunction with a sensory assessment subjectively rating the parameters - cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration. This assessment was conducted both before and after treatment. Based on the results obtained, **AC PolyJackharides** is capable of enhancing smoothing, wet and dry combability, anti-frizz, overall feel, shine and hydration of the hair. These attributes makes it an ideal ingredient for use in products intended for all hair types.

**Code Number: 20963**

**INCI Name:** Water & Artocarpus  
Heterophyllus Fruit Extract

**INCI Status:** Conforms

**REACH Status:** Complies

**CAS Number:** 7732-18-5 & 93333-78-9

**EINCS Number:** 231-791-2 & 297-047-4

**TRF#:** HRI 032

**Lot Number(s):** N2008070

**Suggested Use Levels:** 1.0 - 10.0%

**Use Level for Assay:** 2.0%

### Sponsor:

Active Concepts, LLC

107 Technology Drive

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**Study Director:** Maureen Danaher

**Principle Investigator:** Candice Sneed

**Suggested Applications:** Skin Care,  
Hair Care, Anti-Frizz

### Benefits of **AC PolyJackharides**:

- Anti-Frizz
- Overall Feel
- Hydration

# Salon Half-Head Study

## MATERIALS AND METHODS

The study was conducted using five participants. Each subject had their baseline photo taken prior to having their hair washed. The participant was also asked to complete a survey rating their hair prior to treatment on a scale of 1 to 10, with 1 being the lowest and 10 being the highest, using the following parameters cleansing, smoothing, dry and wet combability, anti-frizz, overall feel, shine and hydration.

Half of the head was treated with the control shampoo and conditioner while the other half of the head was treated with 2.0% **AC PolyJackharides** in the base shampoo and base conditioner. After the application and rinse of the test and positive control products, each participant's hair was blown dry using a round brush on both sides of the head. Once the hair was completely dry, the participant was asked to again assess the same parameters of both halves of their hair. Assessments were made using a rubric from 1 to 10, with 1 being the lowest and 10 being the highest.

## RESULTS

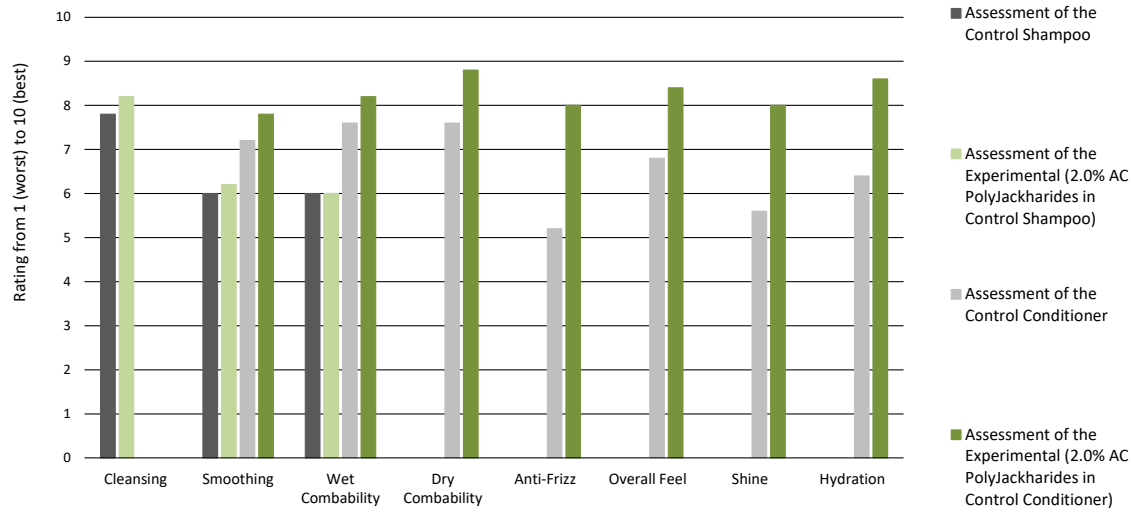
| Parameters Tested | Assessment of the Control Shampoo | Assessment of the Experimental (2.0% AC PolyJackharides in Control Shampoo) | Assessment of the Control Conditioner | Assessment of the Experimental (2.0% AC PolyJackharides in Control Conditioner) |
|-------------------|-----------------------------------|---|---------------------------------------|---|
| Cleansing         | 7.8                               | 8.2   | X                                     | X   |
| Smoothing         | 6                                 | 6.2   | 7.2                                   | 7.8   |
| Wet Combability   | 6                                 | 6   | 7.6                                   | 8.2   |
| Dry Combability   | X                                 | X   | 7.6                                   | 8.8   |
| Anti-Frizz        | X                                 | X   | 5.2                                   | 8   |
| Overall Feel      | X                                 | X   | 6.8                                   | 8.4   |
| Shine             | X                                 | X   | 5.6                                   | 8   |
| Hydration         | X                                 | X   | 6.4                                   | 8.6   |
| Mean              | 6.6                               | 6.8   | 7.4                                   | 8   |

Chart 1. Average Results for Participant's Sensory Assessment

| Parameters Tested | Percent Difference – Comparison of Control Shampoo vs. Experimental (2.0% AC PolyJackharides in Control Shampoo) | Percent Difference – Comparison of Control Conditioner vs. Experimental (2.0% AC PolyJackharides in Control Conditioner) |
|-------------------|--|--|
| Cleansing         | 5%   | X  |
| Smoothing         | 3%   | 8%   |
| Wet Combability   | 0%   | 8%   |
| Dry Combability   | X  | 15%  |
| Anti-Frizz        | X  | 42%  |
| Overall Feel      | X  | 21%  |
| Shine             | X  | 35%  |
| Hydration         | X  | 29%  |

Chart 2. Percent Difference of Participant's Sensory Assessment

# Salon Half-Head Hair Study



Graph 1. Rating of hair characteristics following sensory assessment



Figure 1. Full head Baseline, Untreated Hair



Figure 2. Half Head Treated



Figure 3. Full head Baseline, Untreated Hair

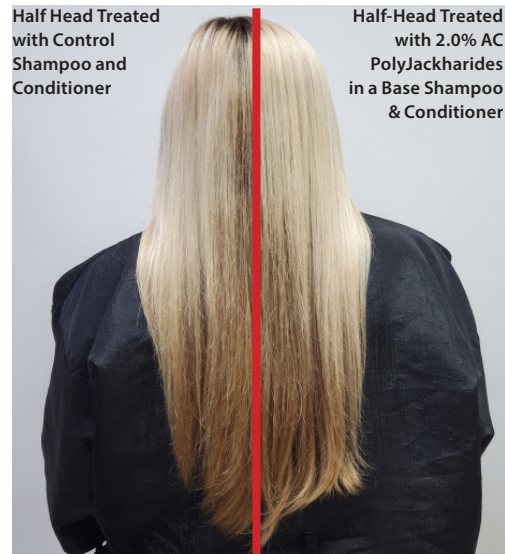


Figure 4. Half Head Treated

# Salon Half-Head Hair Study



Figure 5. Full head Baseline, Untreated Hair



Figure 6. Half Head Treated



Figure 7. Full head Baseline, Untreated Hair



Figure 8. Half Head Treated



Figure 9. Full head Baseline, Untreated Hair



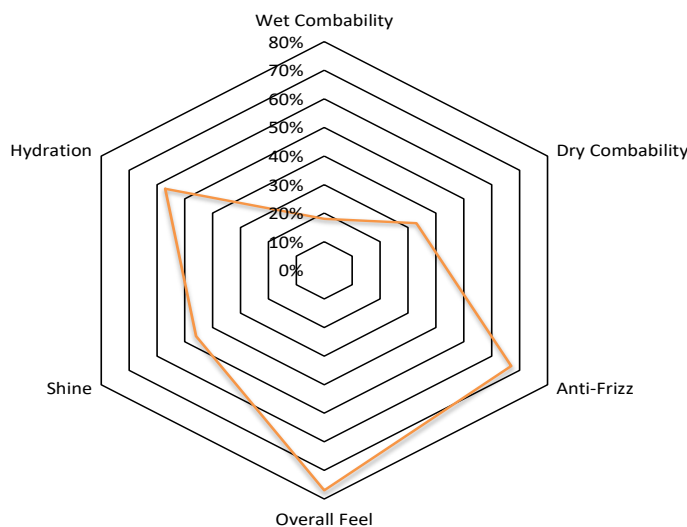
Figure 10. Half Head Treated

# Salon Half-Head Hair Study

When comparing hair characteristics of the baseline assessments to the post style assessments, the benefits of including 2.0% **AC PolyJackharides** in a shampoo and conditioner are even more apparent. In relation to the baseline readings, the test-half of the head improved the intended subjective parameters, improving smoothing, wet and dry combability, anti-frizz, overall feel, shine and hydration by 8%, 8%, 15%, 42%, 21% and 35% and 29%, respectively. It is clear from the images in this study that **AC PolyJackharides** helps create a smooth, sleek hairstyle. Additionally, in all images, the hair is noticeably shinier and has a more conditioned appearance.

The professional stylist who performed the actual tests by applying the product, styling the hair and documenting the images said **AC PolyJackharides** is great for smoothing damaged hair. This product enhances the shine and feel of styled hair. **AC PolyJackharides** is good to use in a leave on application or shampoo and conditioner for perceivable benefits. Great for taming frizz and obtaining a sleek, straight style, **AC PolyJackharides** also works well with heat treatments, such as a blow dryer or straightener, to smooth the hair cuticle.

## Comparison of Control Conditioner vs. Experimental



Graph 2. Hair Assessment results for sensory characteristics

## DISCUSSION

The results of the assessment indicate that when incorporated into a shampoo, 2.0% **AC PolyJackharides** did show improvement in cleansing and smoothing. However, when used in a conditioner **AC PolyJackharides** is capable of improving smoothing, wet and dry combability, anti-frizz, overall feel, shine and hydration more than the control conditioner. These results can be further supported by Figures 1 through 10, where clearly the half of the subject's head treated with 2.0% **AC PolyJackharides** appears healthy and silky smooth. Additionally, the subjects reported a significant increase in smoothness and overall feel of the hair, especially when heat was applied for styling.